

Best Management Practices for Procurement, Use, and Disposition of Electronics

Guidance for Individuals, Households, and Organizations with Limited Computer / Electronic Resources

The following guidelines were researched, compiled, and developed by the Electronic Resource Recovery Council of the Recycling Alliance of Texas to help you:

- \$ **get the highest value for your purchase;**
- \$ **prolong the useful life of your equipment;**
- \$ **avoid exposure to hazardous materials;**
- \$ **recover maximum value from the equipment when you are through with it;**
- \$ **prevent the theft of important personal or business information; and**
- \$ **prevent the negative environmental and public health impacts of improper disposal.**

I. Procurement

A. Make sure the products you purchase meet your needs and give you the most for your money.

1. Make a list of your performance requirements - the features you need and will use.

Knowing what you want *up front* can reduce confusion while shopping and help you avoid overspending on unnecessary “bells and whistles.”

2. Look for used, upgraded, and refurbished equipment that meets your needs and carries a service agreement or replacement warranty.

B. Select products that meet recognized standards for environmentally responsible design and minimal hazardous materials content.

1. Energy Star - US EPA standard for energy efficiency.

2. TCO - Swedish product standards recognizing

- minimal environmentally-hazardous substances including heavy metals and brominated flame retardants;
- low emissions of dust and ozone into the work environment;
- design for easy recycling; and
- environmental certification of the manufacturer.

3. **Blue Angel** - The world's first eco-label, recognizing responsible products and manufacturing practices, including:
 - \$ resource conservation:
 - \$ efficient use of fossil fuels; and
 - \$ reductions in greenhouse gas emissions and impact on the climate.
4. **RoHS** (Reduction of certain Hazardous Substances) - a European Union standard scheduled to go into effect July 1, 2006.

C. Look for additional features that can reduce your costs and help the environment, including:

1. products manufactured with refurbished components and recycled materials;
2. systems with modular design and easy, waste-free disassembly for upgrades, recovery of components for reuse, and recycling.
3. printers and copiers that use remanufactured toner cartridges and can print on both sides of the paper.
4. products with plastic components that are coded for recyclability
5. products that come in packaging that is (in order of preference) returnable, recycled-content, recyclable, or compostable.

D. Evaluate the “total package” - it’s more than just the hardware.

1. Ask for online operating and service manuals (hard copies can be an additional expense) and pre-installed software.
2. Compare product warranties, and weigh the additional cost of an extended warranty against the savings you will realize by having to replace your equipment less frequently. As long as a product continues to meet your needs for an extended period of time, you benefit from the “extra mileage.”
3. If your product lease or purchase includes a service agreement, look for features that can reduce your costs and minimize downtime, including:
 - (a) prompt (i.e. - next business day) hardware support, and
 - (b) real-time software support.
4. Consider purchasing equipment that the manufacturer or vendor will take back for responsible disposition when it is no longer useful to you.

II. Use and Management:

A. Extending the Useful Life of Your Equipment

1. Follow the manufacturer's recommendations on equipment use and maintenance.
2. Use back-up power supplies for systems to avoid sudden shut-downs. Uninterruptible Power Supply (UPS) systems provide:
 - (a) protection from small power surges,
 - (b) power for some time after a power loss has occurred,
 - (c) automatic shutdown of equipment during long power outages,

- (d) automatic restart after a long power outage, and
- (e) short circuit protection.
- 3. Install anti-spyware and anti-virus protection software to protect your system and minimize downtime.
- 4. Avoid turning electronic devices on and off more often than needed.
- 5. Shut off computer monitors at night.
- 6. Regularly (at least once a year) remove dust (using compressed air or a small vacuum) from inside of desktop PCs to reduce heat build-up and extend equipment life.
- 7. Store computers in a climate-controlled environment to avoid damage from extreme heat.
- 8. Consider upgrading electronics through refurbishment rather than replacing them.
- 9. To reduce your risk of identity theft or loss of important information, and to retain the highest value for your equipment, minimize extended storage of used electronics.

III. Disposing of Used Equipment

A. “Good as New”

Fully-functional equipment that operates on currently available technology may be sold, or donated to a non-profit educational or charitable institution. If your equipment will be re-used, the following is advisable:

- 1. If a computer contains any information that you do not want to make available to strangers, make sure the hard drive is erased using software designed for data destruction. Ask for a certificate of data erasure.
- 2. Obtain a receipt that identifies the equipment and formally transfers ownership.

B. No Longer “Good Enough”

If any of your electronic equipment needs repair, upgrading, refurbishing, recycling, or disposal, look for a recycler (disposition services provider) that subscribes to the **Texas E-cycling Standards (TEST)** of environmental responsibility in the management of electronic resources. These organizations have agreed to provide their customers with a copy of the **TEST** standards, including a signed statement agreeing to comply with them.

In addition, **TEST** subscribers will provide the following documents upon request:

- 1. a receipt that identifies each piece of equipment received and formally transfers ownership;
- 2. documentation of data erasure on all hard drives to be resold;
- 3. a certificate of liability insurance coverage; and
- 4. a list of the recycling and disposal service providers that they utilize, with references.